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13. ABSTRACT ***(Maximum 200 Words)***

There is uncertainty about whether women older than age 65 should undergo screening mammography. Although screening mammography may benefit some elderly women through the detection of early breast cancers, it may potentially harm other women through false positive diagnoses and the detection and surgical treatment of clinically insignificant lesions. This research study involves the design and implementation of a data analysis of HCFA Medicare billing claims linked with National tumor registry data from the Surveillance Epidemiology and End Results (SEER) program. The specific aims of this research will evaluate 1) differences in breast cancer mortality, 2) differences in breast cancer treatment and 3) difference in breast cancer tumor attributes (such as size and stage) between women who were screened and those who were not. In the first year of this grant the PI has developed the methodologies for performing the analyses, has obtained the NCI created linked Medicare/SEER database, she has organized the appropriate research team to analyze this data set, and she has begun the project to validate that Medicare claims are accurate for determining the use of screening mammography by collaborating with multiple sites that participate in the NCI funded Breast Cancer Screening Consortium.

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Table of Contents

INTRODUCTION

There is uncertainty about whether women older than age 65 should undergo screening mammography. Although screening mammography may benefit some elderly women through the detection of early breast cancers, it may potentially harm other women through false positive diagnoses and the detection and surgical treatment of clinically insignificant lesions. This research study involves the design and implementation of a data analysis of HCFA Medicare billing claims linked with National tumor registry data from the Surveillance Epidemiology and End Results (SEER) program. The specific aims of this research will evaluate 1) differences in breast cancer mortality, 2) differences in breast cancer treatment (mastectomy and lumpectomy) and 3) difference in breast cancer tumor attributes (such as size and stage) between women who were screened and those who were not. Since women with co-morbidities have higher mortality rates than women without co-morbidities, this project will also evaluate whether there are differences in these outcomes by whether women have co-morbidities. An important associated project is to validate that the Medicare billing claims are accurate for the determination of screening mammography, and this analysis must be completed before the primary aims described above can be analyses.. Using prospectively collected data from the San Francisco-Oakland, New Mexico, and Washington State Breast Cancer Surveillance Consortium (BCSC) registries (an NCI sponsored collaboration of mammography registries) linked with data from Medicare for the same geographical regions from 1992–1996, we will assess whether Medicare physician claims can be used to accurately distinguish screening from diagnostic mammography . If the Medicare data base can be used to determine the use of screening mammography, the linked SEER-Medicare data base will be obtained to evaluate the described outcomes of screening mammography among elderly women.

BODY

The original Statement of Work for the first year of the project described three goals for the first year of the project: 1) obtaining the necessary data sets 2) developing the methodologies for analyzing the Medicare data with respect to the use of screening mammography and 3) Cleaning and beginning to analyze the Medicare data with respect to determining which women underwent screening mammography. These goals have been met.

1) The linked Medicare HCFA/SEER database describing Medicare claims through 1998 and breast cancer cases through 1996 was released by the National Cancer Institute in February 2000, and has been obtained for analysis. Because the investigator will be re-linking this unidentified data set to an identified data set (from the Breast cancer screening consortium) before the HCFA/SEER data base would be released by HCFA and the NCI, the investigator had to obtain CHR approval and SEER PI approval from multiple sites. This approval was obtained, and the data base was requested and has been obtained for analysis. The data base is extremely large and complex, the appropriate hardware has been obtained and analysis of the data has begun.

2) The methodologies for defining a screening mammogram using the Medicare data have been further developed, and the investigator will begin to apply this algorithm to the Medicare data once data cleaning is complete.

3) The project to validate that the Medicare data is accurate for the determination of screening mammography is the current focus of the PI's efforts. In summary, this project will compare the determination of mammography screening based on Medicare with the

determination of mammography screening based on information from the Mammography registries (the mammography registries prospectively collect information on patient symptoms and the indication for screening and thus information contained in the registry data base will be the gold standard for this comparison.) She has obtained the collaboration of the principle investigators from multiple sites, and is working closely with the PIS to obtain the data on the appropriate cancer patients from three Mammography registries. Each mammography registry collects mammography data on tens of thousands of mammograms and the analysis will be limited to the 4150 women with breast cancer. The PI has worked closely with the PI's of these mammography registries to develop an algorithm for determining which of these mammograms are screening based on the information within their registries.

For the majority of the first year of the project the PI was based on London. She was able to make progress on all of the aims outlined in her original proposal as described above. Additionally, she had the opportunity to participate in multiple meetings in London and Oxford focused on understanding US-UK differences in Cancer, including cancer screening, cancer treatment and cancer survival. The lessons will be invaluable for her continued research targeted to breast cancer. She was an invited participant in the US-UK Learning Network on Cancer, an ongoing multi disciplinary group dedicated to developing a better understanding of the reason for cancer outcome differences between the two countries, and she anticipates continued involvement in this organization. Additionally, she has developed a project entitled "US-UK comparison of Screening Mammography" that will compare screening mammography programs in both countries. She has already obtained the data from the UK National Screening Program from 1995 – 1999, and is in the process of obtaining the data from the National Breast and Cervical Cancer Early detection program and the Breast Cancer Screening Consortium that she is hoping to include in this comparison.

KEY RESEARCH ACCOMPLISHEMENTS

- Most recently created MEDICARE/SEER data sets have been obtained
- Statistician has been hired, and data cleaning has begun
- Medicare screening algorithm had been developed, and will soon be applied to the Medicare data.
- Breast Cancer Screening Consortium data has been requested and will be obtained so that the Medicare Validation study can begin

REPORTABLE OUTCOMES

None

CONCLUSIONS

The first year of the project has been successful, and analyses of the remainder of the aims is expected to proceed as originally planned.